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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/593,000 | 05/09/2007 | Orhan Ustun | 0115-062668 | 7851 |

28289 7590 03/15/2011
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| EXAMINER |
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JETTON, CHRISTOPHER M

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| ART UNIT | PAPER NUMBER |
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3748

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| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

03/15/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@webblaw.com

| | | | |
|------------------------------|---------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/593,000 | Applicant(s) USTUN, ORHAN | |
| | Examiner CHRISTOPHER JETTON | Art Unit 3748 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9, 32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9, 32, and 33 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/10/2011 has been entered.

Response to Amendment

Receipt is acknowledged of applicant's amendments filed 2/10/2011. No claims have been cancelled. Claim 9, 32, and 33 are pending and an action on the merits is as follows.

Claim Rejections - 35 USC § 112

The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

Claims 32 and 33 are rejected under 35 USC 112 4th paragraph, as being an improper dependent claim for failing to include all the limitations of the claim upon which it depends and for failing to further limit the subject matter of the claim upon which it

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depends. Specifically, claim 32 requires “a heat exchanger provided between the internal combustion engine and the accumulator” which eliminates the limitation of claim 9 which recites “a device transmitting a heat-input, and an accumulator, the device and accumulator being connected to one another for the exchange of a hydraulic liquid...where in the device transmitting a heat input is an internal combustion engine.”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Raychinov (US 6,539,711 B1) in view Kelly et al (US 4,107,928) in view Barrett et al (US 4,586,338)**.

Regarding claims 9 and 32, Raychinov (Fig 1, Col 6 Line 40 – Col 7 Line 65) discloses an apparatus for converting thermal energy to another energy form comprising at least one heat input and accumulator module, each heat-input and accumulator module comprising: a device (15) transmitting a heat-input, and an accumulator (13), wherein the energy that can be built up as fluid pressure in the heat input and accumulator module can be converted to the other energy form by means of

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an energy conversion device (11), wherein the energy conversion device is a hydraulic motor which can be connected with a gear unit (12) of the apparatus, wherein the device transmitting the heat input is an internal combustion engine (15), the internal combustion engine being connected with the gear unit of the apparatus, wherein a pressure bottle (3) is provided for intermittent storage of pressurized hydraulic liquid, and the pressure bottle is also provided for subsequent supply of the pressurized hydraulic liquid to the hydraulic motor for driving the hydraulic motor, wherein the hydraulic motor is adapted to act as a hydraulic pump in a hydraulic pump mode, and wherein a control unit (10) is adapted to switch the hydraulic motor into the hydraulic pump mode for storing retardation energy in the apparatus (Col 7 Lines 26-65).

Raychinov fails to disclose the combustion heat from the engine essentially being absorbed in the pressurized hydraulic liquid, and a plurality of pressure bottles.

However, Kelly et al (Fig 2) teach a device transmitting a heat-input (20) and an accumulator (25), the device and accumulator being connected to one another for the exchange of a hydraulic fluid, wherein the energy that can be built up as fluid pressure in the heat input and accumulator module can be converted to the other energy form by means of an energy conversion device (130), the heat (Col 2 Lines 57-60) from the heat source being essentially absorbed in the pressurized hydraulic liquid. Kelly et al fail to teach the device transmitting a heat-input is an internal combustion engine.

However, Barrett et al teach a device transmitting a heat-input is an internal combustion engine (12). Barrett et al also teach a heat exchanger (60).

Raychinov discloses the claimed invention except that the hydraulic liquid is pressurized by an exhaust gas-powered hydraulic pump instead of the absorption of combustion heat from an engine. Kelly et al show that it was known in the art to pressurize a hydraulic liquid by simply absorbing heat in a heat exchanger, and Barrett et al is provided to show that an internal combustion engine is a suitable device for transmitting a heat input. One having ordinary skill would find these two pressurizing means could be easily substituted for one another since the hydraulic circuits and their functions are nearly identical and the device or method used to pressurize the liquid is not crucial so long as the liquid is reasonably compressed. Kelly suggests that waste heat from a broad range of sources are sufficient to operate the motor (Col 2 Lines 57-64) and it is well known in the art to recover waste heat from internal combustion engine exhaust gases for auxiliary power functions.

It would have been obvious to one having ordinary skill in the art to modify Raychinov's invention with the hydraulic liquid pressurized through combustion heat absorption taught by Kelly et al since the substitution of one known element for another yields predictable results.

It would have been obvious to modify Raychinov's invention, in view Kelly et al, with the internal combustion engine taught by Barrett et al since a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. One of ordinary skill would have been capable of applying this known technique to a known device that was ready for improvement and the results would have been predictable.

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Also, Raychinov discloses the claimed invention except for a plurality of pressure bottles. It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the storage capacity of pressurized hydraulic fluid with additional pressure bottles, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER JETTON whose telephone number is (571)270-7108. The examiner can normally be reached on Monday through Friday, 7:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER JETTON/
Examiner, Art Unit 3748

/Thomas E. Denion/
Supervisory Patent Examiner, Art Unit 3748